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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/675,855	09/29/2000	Gary Dan Dotson	00AB147 (81696/235)	9316

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Rockwell Technologies, LLC
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EXAMINER	
TORRES, JOSEPH D	
ART UNIT	**PAPER NUMBER**
2133	12

DATE MAILED: 03/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/675,855	DOTSON, GARY DAN	
	Examiner	Art Unit	
	Joseph D. Torres	2133	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 March 2003*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 4-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *11-23* is/are allowed.

6)☒ Claim(s) *1 and 4-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *27 May 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 4 March 2003 have been fully considered but they are not persuasive.

MPEP § 714.04 state that when an amendment fails to point out the patentable novelty which the Applicant believes the claims present in view of the state of the art disclosed by the references and if the claims as amended are clearly open to rejection on the grounds of record, a final rejection should be made.

The Examiner asserts that the Applicant has amended previously examined claim 1 to contain the subject matter of previously examined claim 3, hence newly amended claim 1 has already been examined in its entirety in the previous Office Action of Paper No. 7. Since previously examined claim 3 inherited the limitations of previously examined claim 1 and was rejected under 35 USC § 103(a), the Examiner maintains that the all of the limitations of newly amended claim 1 were properly rejected in the previous Office Action of Paper No. 7, hence maintains the rejection of newly amended claim 1 under 35 USC § 103(a).

The Examiner disagrees with the applicant and maintains all rejections of amended claim 1 and previously examined claims 4-10. All amendments and arguments by the

applicant have been considered. It is the Examiner's conclusion that amended claim 1 and previously examined claims 4-10 are not patentably distinct or non-obvious over the prior art of record in view of the references, Wolf, Tod (US 6385751 B1) and McSpadden, Jeff R. (US 4216540 A) as applied in the last office action, Paper No. 7. Therefore, the rejection is maintained.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

2. Claims 1 and 4-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wolf, Tod (US 6385751 B1) in view of McSpadden, Jeff R. (US 4216540 A).

Note: The rejection of newly amended claim 1 is rewritten to reflect the fact that newly amended claim 1 was rewritten to include the limitations of previously examined claims 1 and 3 so that the rejection of newly amended claim 1 can be written as a single rejection (Note: newly amended claim contains no new matter and the previous grounds of rejection in the Office Action of Paper No. 7 are being maintained).

35 U.S.C. 103(a) rejection of claim 1.

Wolf teaches a system (the device in Figure 5 is a system) comprising: a general purpose DMA controller (Memory/Peripheral Interface 145 in Figure 5 is a general purpose DMA controller), the general purpose DMA controller being configured to control a plurality of different types of DMA transfers between a plurality of different combinations of a plurality of different types of hardware resources (col. 6, lines 2-5 in Wolf teach that Memory/Peripheral Interface 145 in Figure 5 controls data exchange with memory and peripherals, i.e., different types of hardware resources such as Execution units 132, 143, 136, 138, 140 and 142 in Figure 5 of Wolf); an arithmetic unit, the arithmetic unit being coupled to receive data from a general purpose DMA controller (see Reed-Solomon Coprocessor in Figures 4 and 5 with Encoder 457 and Decoder 458 in Figure 4 of Wolf, Note: in col. 2, lines 32-35 Wolf teaches that Reed-Solomon encoders/decoders use Finite Field arithmetic called Galois Field arithmetic hence Reed-Solomon encoders/decoders are arithmetic units, in particular, the Reed-Solomon Coprocessor in Figures 4 and 5 is an arithmetic unit; in col. 8, lines 63-64, Wolf teaches that the Reed-Solomon decoder part of the Reed-Solomon Coprocessor is designed to

receive data from a general purpose DMA controller), the arithmetic unit generating an error checking value based on the data received from the general purpose DMA controller and based on a polynomial equation (Reed-Solomon decoders inherently generate error checking values based on a polynomial equation, see col. 3, lines 24-27 and col. 5, lines 16-26 in Wolf; in addition, in col. 8, lines 30-31, Wolf teaches that data is received from the DMA); and wherein the arithmetic circuit is capable of being programmed with a plurality of different polynomial equations usable to generate error checking values of different types (Wolf teaches that the Reed-Solomon Coprocessor uses a generator polynomial $\gamma(x)$ to create different generator polynomials $\gamma(x)$ by varying j_0 {see col. 3, lines 24-46, Wolf}. Note: the Reed-Solomon decoder must use the same generator polynomials $\gamma(x)$ in order to generate syndromes {col.4, lines 59-66, Wolf} which are defined as the remainder derived by dividing the received codeword by the generator polynomial, hence Wolf teaches that the arithmetic circuit is capable of being programmed with a plurality of different polynomial equations usable to generate error checking values of different types).

Wolf teaches a linear feedback shift register arithmetic circuit wherein the linear feedback shift register includes a plurality of feedback points, the feedback points determining the form of a polynomial that is used in the polynomial equation (Figure 2 in Wolf is a linear feedback shift register arithmetic circuit including a plurality of feedback points, 200-215, the feedback points determining the form of a polynomial that is used in the polynomial equation G(x) through use of the coefficients, G1-G15).

However Wolf, does not explicitly teach the specific use of a linear feedback shift register capable of being modified based on a particular generator polynomial (i.e., Wolf does not teach that the linear feedback shift register arithmetic circuit of Figure 2 is programmable).

McSpadden, in an analogous art, teaches a linear feedback shift register capable of being modified based on a particular generator polynomial (see Figure and Abstract in McSpadden, specifically, see feedback control 28 in McSpadden; Note: The Figure in McSpadden is a modified version of Figure 2 in Wolf whereby Polynomial Enable Gates 20 are programmed to enable feedback at specific tap points in the linear feedback shift register, see col. 2, lines 45-50 in McSpadden). The Examiner would like to point out that Wolf teaches an arithmetic unit that requires use of a means, capable of being modified according to a specific generator polynomial, for generating code and syndromes based on the specific generator polynomial. One of ordinary skill in the art at the time the invention was made would have recognized the McSpadden provides the means necessary to implement the programmable arithmetic unit taught in the Wolf patent.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Wolf with the teachings of McSpadden by including a linear feedback shift register capable of being modified based on a particular generator polynomial. This modification would have been obvious to one of ordinary skill in the art, at the time the invention was made, because one of ordinary skill in the art would have recognized that a linear feedback shift register capable of being modified based on

a particular generator polynomial would provide the opportunity to implement the programmable arithmetic unit taught in the Wolf patent by providing specific required elements for implementing the programmable arithmetic unit taught in the Wolf patent.

35 U.S.C. 103(a) rejection of claims 4-10.

See Paper No. 7 for detailed action of prior rejections.

Allowable Subject Matter

3. Claims 11-23 are allowed.

See Paper No. 7 for detailed action of prior rejections.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hsu; In-Shek et al. (US 5130990 A) teaches a programmable Reed-Solomon encoder/decoder.

This is a RCE of applicant's earlier Application No. 09/675,855. All claims are drawn to the same invention claimed in the earlier application and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the earlier application. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action in this case. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no, however, event will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph D. Torres whose telephone number is (703) 308-7066. The examiner can normally be reached on M-F 8-5.
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert Decady can be reached on (703) 305-9595. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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